

ABSTRACT

In a lithographic projection apparatus, a space between an optical element of a projection system is filled with a first fluid and a second fluid separated by a translucent plate. The first and second fluids have first and second indices of refraction, respectively, that are different from one another. The first fluid is provided in a space between a substrate and the translucent plate and preferably has an index of refraction similar to the index of refraction of the substrate. The second fluid is provided in a space between the translucent plate and the optical element and preferably has an index of refraction similar to the index of refraction of the optical element. The translucent plate has a third index of refraction between the first and second indices of refraction. The third index of refraction may be equal to the first index of refraction or the second index of refraction. A device manufacturing method includes filling a space between the optical element and the substrate with at least two fluids having different indices of refraction.